

In the Specification:

Please amend the paragraph beginning at page 7, line 19, as follows:

The time required for stabilizing the plasma 104 for the given 2-dimensional static magnetic field distribution symmetrical to the axis is on the order of hundreds of microseconds (μs) or less. The permanent magnets 102 typically rotate around the plasma reaction chamber 101 at a speed of about 20rpm, which leads the magnetic field distribution to change depending on time. It is possible to 2-dimensionally sample the cross-sectional magnetic field distribution including the axis 106 in the characteristic magnetic field field direction. The time required for the simulation typically depends on the nature of the plasma 104 and the process conditions. For example, in the case of argon (Ar) plasma under typical process conditions, the simulation may take about one hour.

Please amend the paragraph beginning at page 9, line 2, as follows:

The initial rate and position of an electron, respectively, may be extracted from a Maxwell distribution and a random distribution, and the trajectory of respective pseudo electrons may be separately tracked. A time step Δt_l for determination of particle motion may be expressed by formula (5):

$$\Delta t_l = \min(0.01\tau_{rf}, 0.01\tau_{ECR}, t_{cl} - t_l) \quad (5)$$

where t_l is the time until the trajectory of particle l is updated, τ_{rf} is the radio frequency period, τ_{ECR} is the local electron cyclotron period, and t_{cl} is the time until next collision, namely, $t_{cl} = t_{l0} + v_m^{-1}[[1]]\ln(r), R \in [0,1]$ (where t_{l0} represents the initial time). A specific process is also selected among several possible processes using a random number generator.

Please amend the table at page 15, line 15, as follows:

Table 1

Process Conditions (Power/CHF ₃ (sccm) / CO (sccm) / O ₂ (sccm))	Etch Rate (Å/min)					
	SiO ₂			Si ₃ N ₄		
	Calculation Value (Å/min)	Experimental Value (Å/min)	Errors (%)	Calculation Value (Å/min)	Experimental Value (Å/min)	Errors (%)
1500W/31/150/10	217	2019	-4.87	1850	1836	0.78
1500W/35/150/6	2454	2560	-4.18	2133	2036	4.72
1500W/39/150/2	2755	2737	0.65	2362	2262	4.39
1200W/35/150/6	2156	2294	-6.02	1846	1924	-4.04
1800W/35/150/6	2665	2726	-2.23	2314	2191	5.60